

AMENDMENTS TO SPECIFICATION

Please replace the paragraph beginning at page 7, line 8, with the following:

Therefore, for example, when a transmission line is provided with a value $\alpha_T=1.48 \times 10^{-5}$ (ps/nm²/km/deg) similar to that of RDF and the optical fiber length is set to $L=1000$ (km), the temperature change is set to $\Delta T=50$ (deg) and the wavelength bandwidth is set to $\Delta \lambda=100$ (nm), the dispersion change amount difference becomes ~~$\Delta D=62.5$ (ps/nm)~~ $\Delta D=74.0$ (ps/nm). That is, even when the dispersion is set to 0 in a total range of the wavelength bandwidth of 100nm at an initial time of operating a WDM transmission system and a variation amount of the dispersion is compensated by an adaptive type dispersion equalizer by the same amount over a total wavelength bandwidth, by the temperature dependency of the dispersion slope, a difference of a dispersion of 62.5(ps/nm) is produced between channels of the shortest wavelength and the longest wavelength. In this case, application to a WDM transmission system (allowable dispersion of about 40ps/nm) of 40Gbit/s/ch becomes difficult.

Please replace the paragraph beginning at page 21, line 13, with the following:

Center wavelengths of a wavelength tunable filter are set one by one for all of wavelength channels by the controller 604 comprising PC (personal computer) and dispersion values are monitored. For example, in a wavelength division multiplexing optical transmission system comprising 32 channels, dispersion values in wavelength channels 1 to 32 ($\lambda_{\text{mon}1}$ to $\lambda_{\text{mon}32}$) at a certain temperature $T_1(^{\circ}\text{C})$ are measured and the dispersion values are stored to the controller 604. Next, by measuring dispersion values in $\lambda_{\text{mon}1}$ to $\lambda_{\text{mon}32}$ when a certain other temperature $T_1(^{\circ}\text{C})$ $T_2(^{\circ}\text{C})$ is constituted, dispersion variation amounts $\Delta D_{\text{mon}1}$ to $\Delta D_{\text{mon}32}$ in all of the wavelength channels $\lambda_{\text{mon}1}$ to $\lambda_{\text{mon}32}$ can be monitored by differences from the dispersion values at temperature $T_1(^{\circ}\text{C})$ for the respective wavelength channels. By monitoring the dispersion variation amounts of the respective channels, appropriate dispersion compensation amounts in the respective channels can be known.